

ABSTRACT OF THE DISCLOSURE

Method for gas liquefaction comprising cooling a feed gas by a first refrigeration
5 system in a first heat exchange zone and withdrawing a substantially liquefied stream
therefrom, further cooling the substantially liquefied stream by indirect heat exchange
with one or more work-expanded refrigerant streams in a second heat exchange zone,
and withdrawing therefrom a further cooled, substantially liquefied stream. At least one
of the one or more work-expanded refrigerant streams is provided by compressing one
10 or more refrigerant gases to provide a compressed refrigerant stream, cooling all or a
portion of the compressed refrigerant stream in a third heat exchange zone to provide a
cooled, compressed refrigerant stream, and work expanding the cooled, compressed
refrigerant stream to provide one of the one or more work-expanded refrigerant streams.
The flow rate of a work-expanded refrigerant stream in the second heat exchange zone
15 typically is less than the total flow rate of one or more work-expanded refrigerant streams
in the third heat exchange zone.

20

25